

AMAP Report 2013:2

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Minutes of the 27th AMAP WG Meeting

Torshavn, Faroe Islands, 16–18 September 2013

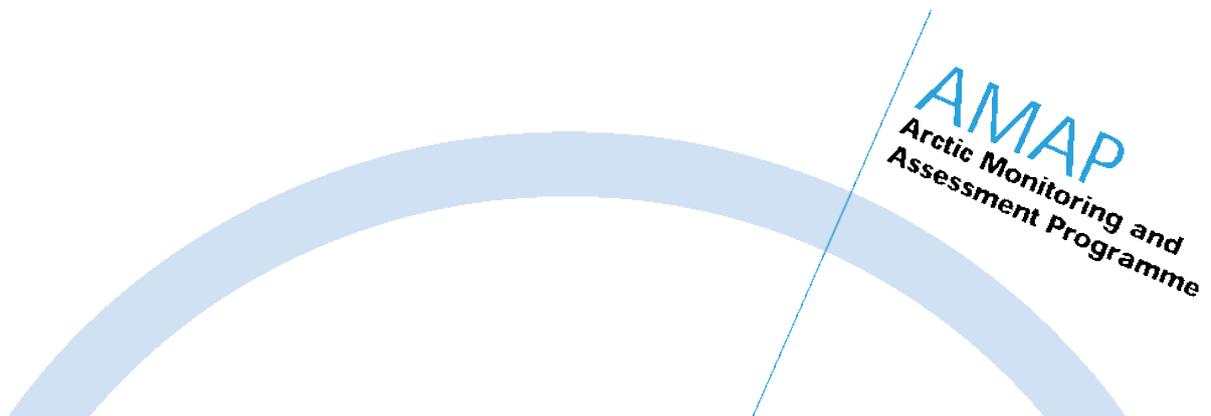


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Torshavn, Faroe Islands, 16–18 September 2013

1 Opening of the WG meeting

1.2 Welcome by invited guest

The AMAP WG Chair, Morten Skovgaard Olsen (Denmark), opened the meeting at 9:00 hrs on 16 September.

The host, Mr Petur Nielsen, Director, Faroese Environment Agency, then welcomed the participants to the meeting. He noted that the Faroe Islands, which has taken part in AMAP work since 1996, is dependent on the harvest from the sea, which is also influenced by other challenges, such as pollutants particularly persistent organic pesticides.

Hanni i Horni, delegate to the Arctic Council SAO meetings/Faroese Prime Minister's Office, reported that a strategic assessment was presented to the prime minister this year to serve as a basis for broad political discussion and determining how the Faroe Islands should interact with other countries on Arctic issues. The assessment focuses on the characteristics and needs of the Faroe Islands, and considers commonalities with other Arctic countries. The strategic assessment, which was developed in cooperation with scientists, industry and the public, will be handed to the parliament for open debate and ultimate use in the work of Faroese agencies.

1.2 Adoption of agenda

The Chair noted that this meeting will concentrate on the priorities for the work over the next two years and cooperation with other Arctic Council (AC) Working Groups (WGs). Several adjustments were made to the schedule of the meeting owing to delays in the arrival of several participants, after which the agenda was adopted. The agenda is attached as Annex 1 and the list of participants as Annex 2.

1.3 Actions from last meeting

Simon Wilson, AMAP Deputy Executive Secretary, drew attention to Doc. WG27/1.3/2, which provides an overview of the status of completion of actions agreed at previous meetings as well as some on-going actions and tasks requested by the Arctic Council. He asked national delegations to take note of the information in this document and, where necessary, initiate activities to address outstanding actions as soon as possible.

The WG requested that this document be updated after the meeting and that it be placed on the AMAP WG area of the AMAP website for future reference.

1.4 Practical information

Maria Dam, Head of Department at the Faroese Environment Agency, provided details concerning the social arrangements for meeting participants.

2 Kiruna Ministerial Meeting

2.1 Kiruna Declaration and SAO report

The Chair provided an overview of the Kiruna Declaration from the Ministerial Meeting in May 2013 (Doc. WG27/2.1/1) and listed the main themes and key issues from this Declaration. He also noted the report of the Senior Arctic Officials (SAOs) to Ministers, which contains the work plans for all of the AC WGs, as approved by the SAOs (Doc. WG27/2.1/2).

2.2 The Canadian AC Chairmanship

The delegation of Canada presented the priorities of the Canadian chairmanship of the Arctic Council, for which the overarching theme is 'Development for the People of the North', with a focus on responsible Arctic resource development, safe Arctic shipping, and sustainable circumpolar communities (Doc. WG27/2.2/1). A number of initiatives are being taken by the Arctic Council and its WGs and some of the key deliverables will be prepared under the Canadian chairmanship; these include the establishment of a Circumpolar Business Forum, action to prevent oil pollution, guidelines for sustainable tourism and cruise-ship operations, protecting traditional ways of living in the Arctic and promoting traditional and local knowledge, addressing short-lived climate pollutants, adapting to changes in the Arctic, promoting mental wellness, supporting the conservation of migratory birds throughout their range, and strengthening the Arctic Council.

2.3 The AMAP Work Plan

The AMAP Secretariat (Simon Wilson) drew attention to the list of planned AMAP deliverables (Doc. WG27/2.3/1) and a matrix table with the implementations actions that need to be taken to fulfill the work plan, including interactions with other AC WGs and external organizations (Doc. WG27/2.3/2).

The AMAP WG noted that these documents provide a good overview of AMAP activities and agreed that the matrix table should be updated on a regular basis and placed on the AMAP website. This matrix table is attached as Annex 3.

3 Activities of Observers and Contributing Experts

The observer from India, Niraj Srivastava, Ambassador of India to Denmark, reported that India operates a research station at Ny-Ålesund, Svalbard that, among others, provides for the long-term monitoring of contaminants including mercury, aerosols, and precipitation and conducts other research. India has also operated a research station in Antarctica for 25 years.

Ian M. Hedgecock from the Italian National Research Council reported that his organization has been active in the Arctic and Antarctic for 25 years (Doc. WG27/3.1/6). A base was established at Ny-Ålesund in 1997 to conduct research and monitoring activities, particularly in the atmosphere and cryosphere, but also in the marine and terrestrial environment. Currently, 12 research projects are running at the station. Measurement systems are connected to the Italian Arctic Data Centre. Michele Rebesco from the Italian National Institute of Oceanography and Physics reported on two Arctic cruises that took place during 2013 and on the organization of the 'Permafrost and gas hydrate-related methane release' summer school

under the EU Cost project PERGAMON, which aims to quantify the input of methane from marine and terrestrial sources in the Arctic.

The observers from Japan, Koichi Warisawa, Ministry of Foreign Affairs of Japan (MOFA), Hideki Sasaki, Ministry of Education, Culture, Sports, Science and Technology (MEXT), and Hiroyuki Enomoto, Arctic Environment Research Center, National Institute of Polar Research, stated that Japan would like to contribute actively to Arctic Council activities, and especially those of AMAP (Doc. WG27/3.1/3). In 2011, MEXT initiated the National Arctic Research Project to achieve a high standard of research and promote training of human resources in this field. The project has four strategic targets: 1) understanding the mechanism of warming amplification in the Arctic; 2) understanding the role of the Arctic in global climate change and future prediction; 3) evaluation of the impacts of changes in the Arctic on weather and climate in Japan, marine ecosystems, and fisheries; and 4) projection of future sea-ice distribution, leading to assessing the potential of sea routes in the Arctic Ocean. Japan began research in the Arctic in the 1950s, with recent scientific interest in the unique natural system, the Arctic as a key region for global change, and the need to improve regional climate models for the Arctic. Japan has also operated an atmospheric monitoring station at Ny-Ålesund since 1991 covering carbon dioxide, methane, aerosols and black carbon. Data from Arctic monitoring and research activities are compiled in an Arctic Data Archive System.

The observer from the Republic of Korea, Yoo Kyung, Korea Polar Research Institute, reported that the Republic of Korea operates several Arctic research stations and is part of broad international cooperation networks, including the Greenland Ice Sheet monitoring network and the Svalbard integrated monitoring network. In 2002, a research station was opened at Ny-Ålesund.

Frits Steenhuisen from the Arctic Centre at the University of Groningen in the Netherlands reported that there is a growing interest in Arctic environmental and climate research issues. Several Dutch institutes have initiated projects on Svalbard and in Russia. New initiatives are also being explored at his Arctic Centre, with work on mercury and radioactivity being important issues.

The AMAP WG considered it useful to promote the nomination of experts from observer countries to participate in AMAP expert groups and to take part in AMAP monitoring and assessment activities. It was agreed that the AMAP Board and Secretariat should prepare a short paper describing the role of AMAP expert groups as well as the role and responsibility of the members of these expert groups. This will be circulated to AMAP Heads of Delegation (HoDs) for approval before it is sent to observer countries with a request for their nominations. Observer countries were also invited to provide input on their projects in the Arctic to the AMAP Project Directory, which already contains a number of projects of observer countries.

The representative from the European Union, Nikolaj Bock of the European Environment Agency (EEA), reported that as of 1 June 2013 there is a new Executive Director of the EEA, Prof. Hans Bruyninckx (Doc. WG27/3.1/4). The mandate of the EEA is to help the Community and member countries make informed decisions about improving the environment, integrating environmental considerations into economic policies and moving towards sustainability as well as to coordinate the European Environment Information and Observation Network (Eionet). The EEA outlined a number of proposals that are currently being considered in EEA and which would be of relevance to AMAP, including 1) establishing a new Arctic group under Eionet which can discuss EEA Arctic indicators and Arctic activities; 2) producing an Arctic report outlining the European perspectives on a changing Arctic environment; 3) coordinating an Arctic regional dimension input to the 2015 State of the European Environment Report

(SOER2015); 4) assisting Greenland in a possible country fiche in SOER2015; 5) providing input to the EU Arctic Impact Assessment; and 6) refining the EEA contribution to SAON.

Marc-André Dubois of the WWF Global Arctic Programme provided an overview of WWF Arctic activities (Doc. WG27/3.1/1). WWF coordinates a number of projects that could contribute to the AACAC, including the RACER (Rapid Assessment of Circum-Arctic Ecosystem Resilience) project on ecosystem stewardship, linking the interconnected goals of ecosystem resilience and human well-being. WWF is active in all three AACAC regions, promoting best governance practices. WWF has also created a web-based mapping tool ArkGIS that provides maps of natural resources and activities such as oil and gas drilling, shipping routes, tourism, etc. WWF has submitted to the CAFF Board a proposal for a scoping study on 'The Economics of Ecosystems and Biodiversity' (TEEB) (Doc. WG27/3.1/2), which is an international initiative that seeks to draw attention to the benefits provided by ecosystems and biodiversity. The CAFF Board has accepted this proposal, but funding will be required. WWF will nominate Dr Martin Sommerkorn to the AACAC Integration Team and members could also be nominated for the regional teams.

Jennifer Provencher, contributing expert from the Association of Polar Early Career Scientists (APECS), stated that APECS now has about 4000 members from 77 countries; the members are undergraduate and graduate students, post-doctoral researchers, and early faculty members and educators in fields of natural science, social science, policy and law with interests in the Arctic (Doc. WG27/3.1/5). APECS is also associated with a number of partner organizations. The aim is to create a new generation of scientists who can contribute to AMAP and other work in the Arctic. A new director, Gerlis Fugmann, will lead the organization for the next three years starting on 1 October.

The Chair thanked the accredited observers and contributing experts for their interesting presentations and noted that they provide many opportunities for cooperation within the sphere of Arctic scientific monitoring and assessment activities.

4 Adaptation Actions for a Changing Arctic part C (AACAC)

4.1 Implementation Plan

Jon L. Fuglestad, AMAP Deputy Executive Secretary, presented an overview of the AACAC project and the draft Implementation Plan (Doc. WG27/4.1/1). He drew attention to the pilot regions, the organization of the project, the deliverables and the timeframe.

In the discussion, delegations expressed gratitude for the work done by the AMAP Secretariat and noted that the draft Implementation Plan was a good starting point for further development. Key points brought up in the discussion included the following:

- The Implementation Plan should clearly reflect the specific goal of the AACAC and the anticipated achievements of the project;
- The importance was emphasized of involving Permanent Participants, and cooperating with other Arctic Council Working Groups, as well as with local and regional authorities and stakeholders; stakeholder engagement is particularly important for improving the information basis for decision-making;

- The regional work and regional integrated reports are the core of the project; priority setting of the main issues in the different regions will be governed by regional needs in a bottom-up process;
- Common methodologies and a common framework for analysis are needed for application to the studies in all three regional pilot areas;
- There is need for further development of a strategic framework to be applied to the AACA-C activities in the pilot regions and in an overall integrated AACA-C report covering all pilot regions;
- A set of common global baseline pre-conditions, on which assumptions for the relationships between global and regional development can be made, needs to be developed;
- Cross regional and pan-Arctic integration will build on the results in the pilot regions;
- The need for sectoral analysis will be guided by the needs of AACA-C activities in the pilot regions;
- The results of the past workshops, e.g., in Oslo, Seattle and St Petersburg, are not sufficiently reflected in the implementation plan;
- More emphasis should be given to ecosystem services as well as to linkages between the environment and socio-economics and ecosystem services;
- AACA-C products need to be considered in the light of target audiences and the goals of the specific products;
- Communications and outreach plans for the different pilot regions need to be developed;
- PP organizations should be included in the work from the outset and Traditional Knowledge should be utilized together with scientific results and analyses;
- Regional reports will be integrated products and aimed at regional end users and key stakeholders; the success of the regional reports is critical to successful overall integration;
- It is not realistic to deliver full regional AACA-C reports for the 2015 Ministerial Meeting for any of the pilot regions.

It was noted that the timeframe for the project may be too tight, regarding both the delivery of regional integrated reports and the overall integrated report to the AC Ministerial Meeting in 2017. Regional integrated reports will most likely be finalized at different speeds. Some countries wanted to postpone an overall integrated report, but the WG agreed to maintain the aim for final delivery in 2017.

The Secretariat was requested to revise the Implementation Plan based on this discussion together with the AMAP Board, for further consideration at the Coordinating Workshop in Quebec.

The WG considered that a common high-level strategic framework covering the questions and issues to be included as well as a general outline for the regional reports were particularly necessary at the outset of this work. Based on the work already carried out in Canada by the IRIS project, the delegation of Canada worked with other delegations in a small break-out group to prepare a draft strategic framework and generic table of contents for the regional reports.

The proposals of the break-out group were considered later in the meeting. Comments on the proposals included the need to include global perspectives in the work, a plan for funding, and a communication strategy. An association with the Arctic Report Card would also be useful as well consideration of the role of SAON in coordinating and dissemination of observations.

The WG agreed that this proposal should be circulated to participants for comment; comments should be submitted by 25 September so that the proposal can be submitted to the Coordinating Workshop in Quebec for final acceptance in the project.

The delegation of the USA presented a proposal by PAME for collaboration on an initiative on sustainable Arctic tourism (Doc. 27/4.1/2). Arctic tourism is one of the sectors identified in AACAC and this initiative fits well into the project.

The WG agreed that it will cooperate with the PAME WG to support and contribute to this project. However, the meeting noted that it was not completely clear whether the initiative includes marine tourism only as tourism on land is also very important in some Arctic countries. The Chair will seek clarification from PAME on the scope of the project, and will inform PAME that AMAP will contribute to the project, which will also be important to AACAC.

4.2 Terms of Reference and national nominations

The AMAP Secretariat (Jon Fuglestad) presented draft terms of reference (ToRs) for the AACAC Regional Implementation Teams, the Integration Team and the composition and responsibilities of these teams (Doc. WG27/4.2/1).

In the discussion, delegates expressed the need for flexibility in the ToRs; this is especially needed for the Regional Implementation Teams. The ToRs should reflect flexibility both regarding the number of persons in each team and also what type of expertise is needed in the different regional teams. There is a need for climate modelers to be part of the teams as well as PPs, and the role and participation of other Arctic Council WGs should also be clarified in the ToRs.

The WG decided that both the Integration Team and the Regional Implementation Teams should be organized on a two-tier level, with a small core group to coordinate the work and a broader advisory team to be part of the process and provide input.

The Secretariat was requested to revise the ToRs based on this discussion together with the AMAP Board, for further consideration at the Coordinating Workshop in Quebec.

The Chair reported that there have been some nominations for the Integration Team, but few nominations for the Regional Implementation Teams. In particular, only one co-chair has been nominated so far for the Integration Team and there is a need for co-chairs for all the Regional Implementation Teams. These co-chairs need to be nominated by Arctic countries.

4.3 Report on ‘Global key drivers’

The delegation of Norway presented an outline of the report on ‘global key drivers’ produced by CICERO, the Center for Climate and Environmental Research in Oslo. Norway has contracted CICERO to prepare this report to review the current scenarios and projections for global key drivers such as population growth, technology and economics that are relevant to the AACAC. These global key drivers have an application for the projections in the Arctic to be used in AACAC.

Several delegations expressed the need for such a report as a common basis for this work. It was also considered important to establish a relationship with IPCC and other international organizations working

with scenario development and system analysis. The WG supported the establishment of a liaison with IPCC through Pal Prestrud (Norway) or another expert associated with AMAP climate work.

It was considered that the projections in the AACA-C should preferably cover two possibilities: one for business as usual and the other that includes actions on greenhouse gas reductions.

The final draft report will be presented to the Coordinating AACA-C Workshop in Quebec City in October.

4.4 Status of AACA-A and AACA-B

The meeting took note of information on the status of AACA-A, which was carried out by SDWG (Doc. WG27/4.4/1) and AACA-B, co-led by Canada and Russia (Doc. WG27/4.4/2).

5 Future Assessments

5.1 Persistent Organic Pollutants (POPs)

The AMAP Secretariat (Simon Wilson) introduced Document WG27/5.1/1. The plans for a POPs assessment update to be delivered during 2015-2017 had been approved on an AMAP HoDs conference call in June, subject to confirmation by Iceland and USA. The plans for a POPs trend assessment workshop (focusing on practical work associated with statistical analysis of time series data sets to feed into the AMAP assessment and also the Stockholm GMP evaluation) have been brought forward in order to arrange this meeting back-to-back with the Canadian Northern Contaminants Program Results Workshop. The AMAP trend workshop would be held in Ottawa on 26-27 September. A conference call of the entire AMAP POPs Expert Group would be arranged on 27 September to further discuss and elaborate the planned assessment work.

The delegations of Iceland and USA confirmed their support for the POPs assessment plans as outlined.

The delegation of Canada stated that the new Canadian Arctic Contaminants Assessment Report III (CACAR III) POPs assessment will be published in late 2013 and will provide significant data and trends information for the AMAP assessment and the Stockholm Convention Global Monitoring Plan and Effectiveness Evaluation. The delegations of Norway and Finland expressed their appreciation that the planned POPs assessment work is being coordinated to meet Stockholm Convention (SC) needs, both with respect to trends and providing information on emerging POPs to the SC-POPPOC (POPs review committee). The delegation of Norway also reiterated the importance of reminding the global community of the precautionary principle when it comes to introducing new POPs, pointing to the special vulnerability of the Arctic in this connection.

The WG discussed an input from Rune Dietz (Denmark) that pointed out that biological effects studies were not adequately addressed in the POPs assessment plans. The WG agreed that this was an omission that should be addressed, and requested that this be addressed during the planned POPs Expert Group conference call. The WG further expressed interest in the idea to improve linkages between wildlife and human biological effects work under AMAP.

In conclusion, the WG supported the work plan for the POPs assessment and asked the POPs Expert Group to include biological effects and 'cocktail' effects and also to specify more clearly the relation with the SC effectiveness evaluation work.

5.2 Radioactivity

The AMAP Secretariat (Simon Wilson) introduced plans to conduct an updated AMAP radioactivity assessment to be delivered during 2015 (Doc. WG27/5.2/1). These plans had also been approved on the AMAP HoDs conference call in June, subject to confirmation by Iceland and USA. Will Standring (Norwegian Radiation Protection Authority), who is leading the assessment, provided additional information on the planned work. A meeting of the expert group originally planned for November is now likely to be held as a teleconference; a face-to-face meeting of the group may take place at a later stage.

The delegations of Iceland and USA confirmed their support for the radioactivity assessment work as outlined, and the delegate of the USA agreed to follow-up the request to confirm/identify national experts to participate in this activity

The WG requested that the Radioactivity Expert Group provide a brief update report on the status of data reporting to allow countries to check whether national data exist that should be reported to the radioactivity TDC in connection with the planned assessment. Missing data should be reported to the radioactivity TDC as soon as possible.

Lars-Otto Reiersen, AMAP Executive Secretary, noted that AMAP had been invited to co-sponsor an Arctic session at an International Conference on Radioecology and Environmental Radioactivity that will take place in Barcelona in September 2014; this was supported by the AMAP WG.

5.3 Human Health

Pál Weihe (Faroe Islands), a member of the AMAP Human Health Assessment Group (HHAG), presented an overview of the plans for an updated assessment on human health in the Arctic (Doc. WG27/5.3/1). A short version of these plans had been considered during the AMAP HoDs conference call in June and they had subsequently been developed in further detail at a meeting and a teleconference of HHAG thereafter, taking into account guidance agreed by HoDs. This work will include the submission of relevant data for use in the Stockholm Convention effectiveness evaluation as well as a chapter on combined effects of climate change and other stressors on human health for use in the AACAC. According to the timetable for the work, the draft assessment will be ready for review in the third quarter of 2014 and completed by the end of 2014.

In the discussion, several delegations expressed concern that the timetable for the assessment was too short to allow the inclusion of all the new data becoming available. It was noted, however, that the scientists involved in the assessment are able to do a quality check and peer review of the data themselves, so there is no need to restrict the assessment to published data.

The WG encouraged the HHAG to consult with the SDWG Human Health Expert Group in relation to the chapter on combined effects of climate change and other stressors, as this chapter is very relevant to the work of that group.

Timo Seppälä of the Finnish delegation reported that the ACAP WG is supporting a new project in Russia to identify relevant contaminants that affect indigenous communities. This project will hire consultants to

review published studies and conduct interviews in indigenous communities to determine problems with contamination. The aim is to take action on target hot spots or key contaminants and communicate risks to these communities.

In conclusion, the AMAP WG approved the plans for this assessment activity and urged all Arctic countries to deliver data and participate in the assessment.

5.4 Other: OGA and mercury follow-up

5.4.1 Mercury follow-up

The AMAP Secretariat (Simon Wilson) reported that AMAP's most recent deliverables on mercury (the 2011 AMAP Assessment of Mercury in the Arctic and the AMAP technical contributions to the UNEP Global Mercury Assessment 2013) had made a significant contribution to the work of the Intergovernmental Negotiating Committee that was established to negotiate a global agreement on mercury. This legal instrument has now been adopted and the signing of the Minamata Convention will take place in Japan in October. Future AMAP work on mercury could be anticipated in connection with implementation of this agreement and, for example, supporting monitoring activities to evaluate the convention's effectiveness. A small activity was currently being completed to update mercury air transport modelling results using the new 2010 emissions inventory prepared by AMAP. This work was being coordinated by colleagues at the EMEP Meteorological Synthesizing Centre – East in Moscow.

5.4.2 Oil and gas assessment follow-up

No further action has yet been taken on developing plans to update the 2007 oil and gas assessment, although the radioactivity assessment will include TENORM releases associated with oil and gas activities. Possibilities were being considered for linking the TENORM work to a pilot study of releases of methane and mercury from oil and gas activities, as data sources for these components may be the same and it could prove efficient to address these questions at the same time. Other AC WGs are following up a number of recommendations of the 2007 OGA, including work under EPPR and PAME on guidelines and methods for combatting oil spills in ice-covered waters. Oil and gas activities are one of the drivers that will likely be addressed in the AACA-C work and this may be the area where AMAP follow-up work will need to be developed in the coming years.

5.4.1 Arctic Ocean acidification assessment follow-up

The AMAP Secretariat (Lars-Otto Reiersen) stated that ministers at the Kiruna Ministerial Meeting had requested AMAP to follow up on the Arctic Ocean acidification assessment. Accordingly, the AMAP Secretariat had worked with Richard Bellerby (Norway), Chair of the AOA assessment, to develop initial plans for follow-up work (Doc. WG27/5.4/1). Norway has agreed to support this work, which will include new information from monitoring and research activities; new experts are also interested in contributing. Cooperation with the International Council for the Exploration of the Sea (ICES) together with the OSPAR Commission was also being established on this issue.

The delegation of the USA reported that the USA has significant expertise in ocean acidification and especially in the Arctic and can add experts to this group. He stated that it is important to consider the global implications of ocean acidification in this work, particularly global teleconnections.

The WG acknowledged the importance of this issue and the rapidity of acidification in the Arctic Ocean as well as the potential ecological and socio-economic implications. The WG decided that follow-up work on AOA should begin on a broader basis than that of the first assessment. A process should be established to determine the issues to be assessed and their priority using a global perspective, and new experts should be encouraged to participate in this work.

In conclusion, the WG requested the Secretariat to arrange a workshop to follow-up on AOA issues, including the availability of new data and global implications and teleconnections of AOA. Arctic countries as well as Permanent Participants and observer countries were requested to make new nominations for the Expert Group on AOA.

5.5 Review list of experts and update if relevant

AMAP countries were requested to review and update, as necessary, the lists of AMAP expert group members for their countries (see Doc. WG27/5.5/1). Observers were also invited to nominate relevant experts to AMAP expert groups, in particular for ongoing AMAP assessments.

The representative from Japan agreed to discuss with the radioactivity assessment lead to identify Japanese experts who may be able to contribute to the assessment component dealing with Arctic implications of the Fukushima accident. The observer from Italy recalled that Italy had nominated an expert to the Methane Expert Group. The AMAP Secretariat (Simon Wilson) agreed to check on the status of this nomination.

6 Short-Lived Climate Forcers (SLCF)

6.1 Review outcome and plans from the BC/O₃ workshop in Potsdam

AMAP Deputy Executive Secretary Jan René Larsen drew attention to Doc. WG27/6.1/1, the report of the June 2013 meeting of the AMAP Expert Group on Black Carbon and Tropospheric Ozone. The report contains the detailed work plan for the group's production of their assessment report, to be presented at the Ministerial Meeting in 2015, including timelines leading up to the publication of the assessment as well as a draft outline of the assessment.

Following discussion, the WG concluded that the material presented provides a good outline of the work and the Expert Group should continue its work as outlined in the report. Accordingly, the AMAP WG accepted the work plan for the Expert Group on Black Carbon and Tropospheric Ozone.

6.2 Review progress report from CH₄ group

The AMAP Secretariat (Jan René Larsen) drew attention to Doc. WG27/6.2/1, a progress report of the work of the AMAP Expert Group on Methane. The purpose of this interim report is to inform AMAP of progress to date, early results and a sense of the available tools and data from which the Expert Group will investigate the impact of anthropogenic methane emissions from Arctic nations on Arctic climate and feedbacks. The report contains the detailed work plan for the group's production of their assessment report, to be presented at the Ministerial Meeting in 2015, including timelines leading up to the publication of the assessment as well as a draft outline of the assessment.

The WG noted that the work of this group is well advanced and that the expert group is confident that they will meet their timelines. Accordingly, the AMAP WG accepted the work plan for the Expert Group on Methane.

The WG then considered how the work of the two SLCF Expert Groups should be made publicly available and also the need for the production of a common synthesis of the two reports. In the deliberations, it was agreed that the topics are complicated and that a layman's report is needed.

The WG agreed that the AMAP Secretariat and the Board should find a science write to prepare this synthesis report, which will be a non-technical report for the SAOs and policy-makers. It will ultimately need to be approved by the Working Group. A communication strategy for additional outreach products, such as the production of a DVD, will be discussed at the next HoDs meeting; it was considered that some outreach products should also include the work of the Arctic Council Task Force for Action on Black Carbon and Methane.

6.3 Review mandate of AC Task Force and agree on next step

The AMAP Secretariat (Jan René Larsen) drew attention to Doc. WG27/6.3/1, which is an excerpt from the SAO report to the Kiruna Ministerial Meeting describing the objectives and composition of the AC Task Force for Action on Black Carbon and Methane.

It was noted that the Task Force was holding its first meeting in parallel with this meeting of the Working Group. Attempts had been made to obtain a better understanding of the work of the Task Force, but only little information was available. The Task Force had been provided with the relevant AMAP material, including Docs. WG27/6.1/1 and WG27/6.2/1, in order to inform the Task Force about the work of the AMAP Expert Groups on SLCFs.

The delegate of Canada informed the group that the Task Force will look at international agreements. He considered it useful to obtain feedback from the Task Force meeting in order to clarify the scope of its work in relation to the scientific work of the two AMAP Expert Groups on SLCFs. He suggested that a formal mechanism for cooperation should be established for these groups.

The AMAP WG agreed that the WG Chair should contact the Chair of the Task Force to discuss initiatives to avoid duplication of work, including possibly inviting the chairs to each other's meetings. It was also suggested that AMAP HoDs give consideration to whether a common communication strategy should be discussed with the Task Force, leading up to deliverables for the 2015 Ministerial Meeting.

7 Snow, Water, Ice and Permafrost in the Arctic (SWIPA) – Follow-up

The AMAP Secretariat (Lars-Otto Reiersen) stated that plans for follow-up activities to the SWIPA report, which was published in 2011 with information up to 2009, began at the meetings of the AMAP Climate Experts Group and Heads of Delegation in Victoria, Canada in early 2012. The aim is to prepare short updates on several of the issues to include more recent information that will then feed into the AACAC work. Of the proposed issues listed in Doc. WG27/7.1/1, work has already begun on the development of a freshwater budget for the Arctic. This work is being supported by CLiC, IASC, and AMAP; a meeting of lead authors is planned for 11-12 November in Stockholm. Other potential areas include sea ice, the Greenland Ice Sheet, feedback mechanisms, and permafrost.

The delegation of Canada reported that the Climate Research Division of Environment Canada is interested in an update on sea ice and also on snow. The Canadian scientist Ross Brown is willing to work on an update of the SWIPA chapter on snow cover, preparing a document of about 30 pages.

The delegate of Sweden reported that she has consulted with the leads of the SWIPA chapter on permafrost, who stated that there is limited new information on this issue since 2009 so any update should be linked to the Arctic Report Card.

In the discussion, concern was expressed regarding the work load associated with this proposal. It was considered that this work should be part of the AACCA-C activities and should be strategic and based on an evaluation of priorities.

Accordingly, the WG agreed that further consideration of this follow-up work should be postponed until feedback from the AACCA-C Coordinating Workshop in Quebec has been received. Based on the needs for AACCA-C identified in that workshop, plans will be developed to convene a workshop to bring together the modelling community, cryosphere scientists and lead key contributors to the regional AACCA-C activities to prepare more detailed proposals for follow-up activities.

8 Findings and Implications of Products Delivered to the Kiruna Meeting

8.1 Arctic Ocean Acidification (AOA)

The AMAP Secretariat (Jon Fuglestad) drew attention to Doc. WG27/8.1/1, containing the links to the leaflet presenting the key findings of the Arctic Ocean Acidification Assessment and the short ‘Summary for Policy-Makers’, which additionally includes background information and a set of recommendations to the Arctic Council.

The AMAP Secretariat (Simon Wilson) reported (Doc. WG27/8.1/3) that layout versions of three chapters of the full scientific background report are now available; the report will be sent for printing as soon as the remaining issues on the other chapters have been resolved. The printed report will be available in November. The Secretariat will send an e-mail to AMAP HoDs requesting information on the number of copies of the AOA scientific report that they wish to receive.

The AMAP Secretariat (Simon Wilson) stated that the AOA layman’s report, a draft of which was reviewed by HoDs last January, has been revised based on the comments received (Doc. WG27/8.1/4). This draft will need to be reviewed and accepted by AMAP HoDs and checked again by lead authors of the science report before finalization.

It was agreed that HoDs should submit any comments to the Secretariat by 7 October, together with the number of copies they would like to receive of the science report. HoDs should also consider whether they would translate this overview report into their own language.

8.2 Ecosystem Approach to Management

The AMAP Secretariat (Jon Fuglestad) informed the meeting about the work of the PAME Expert Group on Ecosystem Approach (EA) to Management, including the progress and workshops (Doc. WG27/8.2/1).

The third workshop was arranged in Reykjavik, Iceland in mid-June, with a focus on data handling and integrated assessments as part of the EA. The workshop identified commonalities between EA and AACA-C and suggested that the Large Marine Ecosystems (LMEs) used in EA could serve as marine boundaries in AACA-C.

The WG considered the suggestion that the EA LME boundaries be used in AACA-C, but decided that there is a need to be flexible in deciding the boundaries of this work. While the use of LMEs can be appropriate, there is a need to be guided by the questions and needs of the work and the availability of data when delineating the area to be considered. Furthermore, AACA-C also includes terrestrial areas, which are irrelevant for LMEs. Thus, any decision to use LMEs in AACA-C should be made at regional level.

The delegation of Norway noted that their management plans for open sea areas are an example of how to use EA in management. Several other countries stated that EA has been included in their management of Arctic marine areas.

8.3 Arctic Biodiversity Assessment (ABA)

The AMAP Secretariat (Jan René Larsen) drew attention to Doc. WG27/8.3/1, listing the key findings and the policy recommendations of the CAFF Arctic Biodiversity Assessment (ABA), which was released at the Kiruna Ministerial Meeting. The report has three components: Report for Policy Makers, Synthesis, and Full Report. At the Ministerial Meeting, SAOs were instructed to ensure the development of a plan to implement the recommendations of ABA and report on progress to the next Ministerial Meeting. Doc. WG27/8.3/2 contains an invitation from CAFF to the AMAP Secretariat to provide a mapping of AMAP activities in relation to the ABA recommendations. However, it was not clear how this matrix should be filled in nor whether this would imply extra work for AMAP.

In the discussion, the view was expressed that the CAFF ABA matrix is simply a screening activity to determine the relevant activities of other AC WGs. Although an AMAP activity does not necessarily respond to a recommendation, the mapping could document that the AC WGs are working together to meet overall objectives. This is an initiative to obtain an overview of relevant recommendation-related activities with emphasis on the fact that AMAP is not the body to implement these recommendations, but only to support them.

In conclusion, the AMAP WG agreed that the AMAP Secretariat should be requested to fill in the CAFF matrix, listing the work that AMAP is currently doing in relation to the recommendations, but indicating that AMAP is not implementing the ABA recommendations as such.

8.4 Arctic Ocean Review (AOR)

The delegation of Canada provided information on the status of the Arctic Ocean Review prepared under PAME (Doc. WG27/8.4/1) for which AMAP led the work on Chapter 6 on Arctic marine pollution. The recommendations from all AOR chapters are contained in Chapter 9, four of which are relevant to AMAP: Recommendation 18 on the need to identify, monitor and assess the combined effects of multiple stressors such as climate change, ocean acidification, pollution, etc., on Arctic marine species and ecosystems and to support the AACA; Recommendation 19 on the need for Arctic states to reaffirm the importance of their engagement in the UNFCCC to reduce global greenhouse gas emissions; Recommendation 23 on the need for AC WGs to collaborate to develop a list of research gaps and priorities in Arctic marine science particularly in relation to ecosystem-based management; and

Recommendation 24 for Arctic states to improve scientific cooperation and coordination by, among others, sharing infrastructure, and improving data exchange and management through mechanisms such as SAON (Doc. WG27/8.4/2). PAME has prepared a draft matrix on follow-up activities to these recommendations that AMAP will need to consider (Doc. WG27/8.4/3).

8.5 AMSA IIC and AMSA IID

Janet Pawlak, AMAP Deputy Executive Secretary, reported that the AMSA IIC report that identifies marine areas of heightened ecological significance, prepared by AMAP in collaboration with CAFF, and cultural significance, prepared by SDWG, has been completed and will be printed shortly. This report fulfills Recommendation IIC of the PAME Arctic Marine Shipping Assessment (AMSA). Based on this report, PAME has begun the development of a project to explore the need for internationally designated areas in the high seas of the Arctic Ocean that warrant protection as a specially designated marine area, to fulfill AMSA Recommendation IID.

8.6 Arctic Resilience Report

The delegation of Sweden presented the status of the Arctic Resilience Report (ARR) for which the interim report was presented to the Kiruna Ministerial Meeting. Phase 2 of ARR will start this autumn with a scoping workshop in Stockholm in mid-October and a report to the 2015 Ministerial Meeting. Sweden will continue to support ARR, but complete funding is not yet in place; contributions from other Arctic countries are welcome.

The AMAP WG noted that there are several similarities between ARR and AACA-C and maintaining a close relationship was necessary to make the best use of resources.

9 Unmanned Aircraft Systems (UAS)

The AMAP Secretariat (Jan René Larsen) drew attention to the AMAP UAS Expert Group progress report (Doc. WG27/9.1/1). AMAP published the Expert Group's report 'Enabling Science Use of Unmanned Aircraft Systems for Arctic Environmental Monitoring' in December 2012, and the Expert Group has now changed focus to the development of an Arctic agreement on UAS. The progress report contains plans for drafting the agreement text and also for finalization of the UAS Handbook. As part of the preparation of the agreement text, the Expert Group has worked with the Joint Authorities for Rulemaking on Unmanned Systems (JARUS), which consists of civilian aviation authority representatives from more than twenty countries, including most of the Arctic Council countries (Sweden and Iceland are not part of JARUS).

The discussion focused on the process of bringing the agreement text into the political system. The use of UAS in the Arctic is important not only for science but also for search and rescue, and for monitoring of, for example, oil spills. The science operators' handbook is an important aspect of this work.

The WG appreciated this work and concluded that the Expert Group seems to have good and realistic plans for the production of their deliverables. The AMAP WG requested receipt of the white paper, the handbook for science operators, and the draft agreement text by 1 February 2014 so that they will be available to submit to the spring meeting of the SAOs.

10 AC Task Force on Scientific Research Coordination

The AMAP Secretariat (Jan René Larsen) drew attention to Doc. WG27/10.1/1, which is an excerpt from the SAO report to the Kiruna Ministerial Meeting describing the objectives and composition of the Task Force for Enhancing Scientific Cooperation in the Arctic.

The delegation of Russia informed the WG that there will be a workshop in November 2013, which will include the former SAO Chair Gustaf Lind. This initiative will be discussed at a meeting between the Ministry of Natural Resources, Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet), Russian Academy of Sciences, Ministry of Education and Science, Ministry of Foreign Affairs, Ministry of Defence, and possibly some others. Russia considers this initiative as a follow up to IPY.

The delegation of the USA explained that the U.S. has a number of bilateral agreements at the national level as well as on an international level. The U.S. saw the intent of this initiative as a way to strengthen the efficiency of these agreements by trying to consolidating them. It would be an attempt to enhance scientific cooperation in the AC and beyond.

The delegation of Norway noted that SAON and IASC are ongoing initiatives that have identified the need for more monitoring in the Arctic. A gap analysis may be needed of what is missing or lacking and this could be an activity of this TF.

The WG considered that the role and function of this new AC TF were not clear, so it was difficult to decide how AMAP could assist this group. Accordingly, the Chair requested the national representatives to ask their SAOs to clarify national representation on the group and its remit, and how AMAP can help to support the initiative.

11 AMAP Communication

11.1 AMAP web page

The AMAP Secretariat (Simon Wilson) presented the new AMAP website which went live over the summer following an extended period of redevelopment (Doc. WG27/11.1/1). Further development work is being planned and the WG were invited to provide wishes for what they would like to see (and also to report any bugs/annoyances that they would like fixed). The delegation of Denmark suggested that part of the site could be developed to present the work of the AMAP expert groups.

Discussions centered on the use of the website for supporting internal work by the WG and expert groups. The AMAP Secretariat (Simon Wilson) reported that sub-sites or pages would be established on the password-protected part of the site to facilitate expert group or project work. Some expert groups (e.g., Human Health Assessment Group) have already requested the ability to maintain their own sub-sites on the public part of the website and part of the development has involved setting up templates and other content tools to allow groups and projects to maintain their own material.

As soon as the internal communication routines have been established, a two-way trial will take place to allow the WG and expert groups to report on their experiences as part of the work to further extend the development.

The meeting expressed its appreciation to Simon Wilson for his efforts in developing the new website.

11.2 Kiruna and AOA communication

As part of the work to evaluate the AMAP communication strategy associated with the delivery of the Arctic Ocean Acidification assessment, the Secretariat prepared an evaluation document (Doc. WG27/11.2/1). This document was previously circulated to AMAP HoDs. Communication associated with the AOA conference in Bergen was generally successful; however, the evaluation was of communication and outreach (C&O) activities associated with the Kiruna Ministerial Meeting. The evaluation had also been sent to the Arctic Council communications group, but no response has been received. The document illustrates some lessons that need to be learned for future C&O efforts associated with new AMAP assessment deliverables.

As a result of the evaluation, the question of whether Arctic Council Ministerial Meetings are the correct venue for targeting AMAP deliverables was raised. Options discussed included producing policy-relevant recommendations and condensed outreach materials for the Arctic Council meetings, but delivering other products (e.g., scientific assessment reports, overview reports, films, etc.) at venues that are better suited with respect to the audiences and time available for presentation, etc. The WG agreed that this should be considered in future AMAP assessment C&O planning, taking into account the need to document transparently the traceability of policy-relevant recommendations to the scientific work and findings on which they are based.

12 Arctic Report Card

The AMAP Secretariat (Jan René Larsen) drew attention to Doc. WG27/12.1/2, which is an updated version of Doc. WG26/9.2/1, presented at the meeting of the AMAP WG in Stockholm in 2012. The document contains an overview of the contents and authors of the Arctic Report Card (ARC) in the period 2006 to 2012. It describes how AMAP has provided external review to past versions and that AMAP will also take this responsibility for the 2013 version. The document also lists different options for how AMAP could develop its involvement in future versions.

The delegation of the USA reported that he had spoken with NOAA, the publisher of ARC, who had been open for AMAP to play a role in the production of the report. The NOAA management and leadership are interested in working with AMAP, but wanted to know more specifically what AMAP is looking for in this cooperation. It had been noted that there is a room for coordination also within the AACA-C framework.

The delegation of Canada stated that the ARC serves a very clear, timely, and important function, and that the arms-length external peer-review process that AMAP conducts plays an important role, although AMAP may not receive the recognition it deserves for carrying out this work.

The AMAP Secretariat (Lars-Otto Reiersen) expressed concern about the timing of the report. The ARC is released in November/December and there is a risk that it will expand further into AMAP areas, on

which AMAP releases its reports in May. The effort that the Secretariat puts into peer review of the ARC has not been significant and does not raise concern.

In conclusion, the AMAP WG agreed that it currently is satisfied with the role that AMAP plays in the production of the ARC, also given that the work is not a large effort for the Secretariat. As plans are developed for AACA-C, it will be worth discussing the products that AMAP wants to produce under the ARC. Discussions should continue with NOAA and it may be worthwhile to have a meeting with the NOAA leadership when clearer ideas have been formulated. For the 2014 report, a process should be set up so that observers can also nominate reviewers.

13 AMAP Monitoring Guidelines

The AMAP Secretariat (Janet Pawlak) drew attention to the current version of the AMAP Trends and Effects Programme 2013-2017 (Doc. WG27/13.1/1). The monitoring guidelines had been discussed at a workshop in San Francisco in February 2010. After the workshop, parts of the guidelines had been revised and updated, and the result was presented in the document on the table.

In the discussion, the importance of these guidelines to AMAP work was noted. It was considered, however, that the integrated assessment approach, as proposed at the San Francisco workshop, should be more clearly reflected in the guidelines. The guidelines should also be in accord with international guidelines for other international programs and additional parameters, including on screening for emerging POPs, ocean acidification, and climate, should be incorporated. There is also a need to develop an approach for monitoring combined effects. AMAP expert groups should be requested to identify what needs to be changed or developed. More emphasis should also be given to cooperation with SAON and CBMP in the revision work.

In conclusion, the WG agreed that all AMAP expert groups should be requested to review the current guidelines and indicate the amendments and additions that are needed. Further work should include the addition of new parameters, including on climate, ocean acidification, and UB-B; guidelines should also be developed for screening for emerging POPs and for a combined effects approach. Specimen banking could also be considered. Coordination with CBMP and SAON should be maintained during this work. Ultimately, an easier presentation of the guidelines should be developed so that the structure of the programme is clearer and easy access on the web should be made available.

The WG considered that a guideline revision workshop would be needed to determine how all of these revisions and additions can be developed in the most efficient manner. Accordingly, the WG requested the AMAP Secretariat and Board to prepare a strategy document concerning the type of workshop that would be needed to most effectively develop revised guidelines for the Trends and Effects Monitoring Programme, including the need to develop guidelines for a combined effects approach, screening for emerging POPs, and coordinating with the CBMP and SAON. This document should describe defined outcomes, and people should be assigned to lead it. The document will be considered at the next HoDs meeting in February 2014.

Noting that the guidelines in Doc. 13.1/1 had not been available to delegations for review 30 days before this meeting, the Chair concluded that the current version of the guidelines should be used until new guidelines have been established.

14 Status of Other Business

14.1 AC request to estimate WG effort

The Chair stated that the request from the Arctic Council Secretariat to estimate the total amount and value of effort expended by AMAP in its work has presented serious difficulties given that a large proportion of AMAP work results from in-kind contributions by member countries, while the budget of the AMAP Secretariat represents a smaller proportion. Appropriate guidelines are needed for how to respond to this request.

The AMAP WG agreed that the Chair should raise this issue with the SAO Chair and request that, at a minimum, guidelines be developed for preparing these estimates. National reporting on effort expended may also be required.

14.2 National Implementation Plans. The need for and use of the plans

The AMAP Secretariat (Simon Wilson) reminded delegations of the ongoing task to document their AMAP national implementation plans (NIPs) in reports and/or registrations in the AMAP Project Directory (PD). He referred to annotations in Doc 27/1.3/2 regarding the most recent data provided, according to Secretariat records. For most countries, NIP reporting is reasonably up-to-date (i.e., up to 2011 or later); however, it was noted that NIP reporting by Norway and USA is incomplete and/or very outdated. The delegations of Norway and USA agreed to look into this matter. AMAP NIPs continue to be used for identifying relevant sources of information for AMAP assessments.

The AMAP Secretariat (Jan Rene Larsen) provided information on the status of SAON NIP reporting and planned activities under SAON for updating SAON NIPs.

Regarding the AMAP PD, this now contains 932 project registrations of which approximately 300 are associated with AMAP NIP activities. Several of the observer countries were complimented for the number of projects registered by their countries in the PD. Michele Rebesco (Italy) asked for information concerning the source of these registrations so that they could be checked/updated if necessary, and Simon Wilson agreed to provide this information.

14.3 Update on the reporting of data to the Thematic Data Centers

The AMAP Secretariat (Simon Wilson) reported that no new document had been prepared on the status of reporting to AMAP TDCs; however, he referred to the document presented at the WG26 meeting (WG26/13.2/1) and to annotations in document WG27/1.3/2 regarding data reporting. He stated that a new contract had been established with NILU to further develop data management systems at the AMAP atmospheric TDC, and discussions had been held with ICES regarding data reporting to the marine TDC. AMAP data at both NILU and ICES are accessible online through their web-based data systems. Norwegian, Icelandic and Faroese data had been extracted from ICES in connection with planned POPs trend assessment work.

WG delegations were requested to continue to check the status of national reporting to the AMAP TDCs and address any gaps that are noted. In particular, they should make sure that POPs and radioactivity data

reporting to relevant TDCs is up-to-date as this is important for assessment activities that are currently under way.

14.4 SAON

Tom Armstrong (USA), Co-Chair of SAON, drew attention to Doc. WG27/14.4/1, the SAON progress report to the SAO meeting in Stockholm in March 2013. The document also briefly describes the outcome of the SAON Board meeting in April 2013, including the fact that SAON will establish two sub-committees, one on coordination and one on information and data. The document also contains a link to the first SAON newsletter, published in the summer of 2013.

The delegation from Iceland praised SAON and believed that the initiative is developing in the right direction. Noting the presentations of the observer countries earlier in the meeting, he queried whether SAON could act as a possible vehicle for integrating their work.

Tom Armstrong responded that all countries, including observer countries, are invited to play an active role in SAON. He repeated an earlier statement that SAON needs to go from a definition phase to an active phase. SAON has made progress at the programmatic level, but needs to do more soon, otherwise concern will be raised. A proposal has been developed for how SAON could be involved in AACA-C by organizing the relevant data and information framework. This could be a test case for showing the assets of SAON in terms of the integration and synthesis of information. It could provide a response to questions like “Where do we have gaps and how can we advocate for them to be filled?” The initiative could also support information dissemination.

The delegation of Canada praised the development of the initiative, noting that there had been major hurdles to overcome during the development of the governance structure. Canada continues to be an active participant and wants to see more action. The delegate was pleased to see the newsletter and was interested in seeing what can be done at the action level, including a second round of calls for new tasks.

14.5 CAFF/CBMP

The documents for this agenda item (Docs. WG27/14.5/1 and WG27/14.5/2) had not arrived in time for their review before the meeting so this item was not handled. The WG noted, however, that the coordination of monitoring activities under the CAFF Circumpolar Biodiversity Monitoring Programme (CBMP) and the AMAP Trends and Effects Monitoring Programme should occur at the national level.

14.6 ICARP III

The AMAP Secretariat (Lars-Otto Reiersen) reported (Doc. WG27/14.6/1) on recent attendance at two meetings to plan for the Third International Conference on Arctic Research Planning (ICARP III). This conference will be held in Japan in 2015; it will not develop a new science plan, but rather will identify gaps and determine additional work to be conducted. The USA has put forward a proposal for a coordination mechanism for funding agencies and will now prepare a prospectus on how this could function.

14.7 Arctic Frontiers Conference

The AMAP Secretariat (Lars-Otto Reiersen) reported that AMAP will co-sponsor the 2014 Arctic Frontiers Conference in Tromsø during the third week of January. The overall theme is ‘Humans in the

Arctic’ and Session II on ‘Health and Environment in the Arctic’ is particularly relevant for AMAP (Doc. WG27/14.7/1). This part of the conference will serve as the final conference to report the results of the AMAP-coordinated EU FP7 project ArcRisk (Arctic Health Risks: Impacts on health in the Arctic and humans owing to climate-induced changes in contaminant cycling) as well as other relevant work of AMAP including the AMAP/NCM Combined Effects of Contaminants and Climate Change project. Countries are encouraged to support the participation of their scientists at this conference.

It was noted that the AMAP Human Health Assessment Group will also meet in connection with this conference.

14.8 Arctic Marine Strategic Plan (AMSP)

The meeting noted that PAME is preparing a new Arctic Marine Strategic Plan (AMSP) for the period 2014-2024. The revised version of AMSP is currently out for national review and has also been sent to AMAP for comment.

The Chair encouraged delegates to deliver their comments on the plan to their national PAME representatives.

14.9 LRTAP

The AMAP Secretariat (Simon Wilson) introduced Doc. WG27/14.9/1-Info and referred to key findings of the Saltsjöbaden 5 science-policy workshop on future international air pollution strategies. As for previous Saltsjöbaden conferences, this event aimed to provide direction for the future development of activities under the LRTAP Convention, but also addressed air pollution issues in relation to the Climate and Clean Air Coalition (CCAC), Stockholm Convention, Minamata Convention on Mercury, and the Arctic Council.

The WG were strongly encouraged to review the recommendations contained in the Saltsjöbaden 5 workshop report, in particular those relating to Air Pollution and Climate (including Short-Lived Climate Pollutants); Future air pollution agreements; Air Quality and Health; and Persistent Organic Pollutants and Heavy Metals.

14.10 ICES-OSPAR Study Group on Ocean Acidification (SGOA)

The AMAP Secretariat (Jan René Larsen) drew attention to Docs. WG27/14.10/1 and WG27/14.10/2, on activities of the ICES-OSPAR Study Group on Ocean Acidification (SGOA). The Terms of Reference of the group contain many items of potential interest to the AMAP WG, including the drafting of guidelines for measuring the carbonate system in marine waters. Another relevant item is ToR E: “Consider the strategy that would be required for an assessment framework appropriate for long-term assessment of the intensity/severity of the effects of ocean acidification, including any assessment criteria required”. He reported that he had attended the meeting of the group in 2012 and will also attend the 2013 meeting. At the 2012 meeting, he had reported on preparations for the AMAP AOA assessment and will describe the outcome at the 2013 meeting.

14.11 Cooperation with the International Council for the Exploration of the Sea (ICES)

The AMAP Secretariat (Jan René Larsen) drew attention to minutes from a meeting held between the ICES Secretariat and the AMAP WG Chair and Secretariat (Doc. WG27/14.11/1). At the meeting, AMAP

invited ICES to contribute to the AACA-C. ICES invited AMAP to send experts to several relevant ICES working groups including the Study Group on Ocean Acidification (SGOA), the Working Group on Integrative, Physical-biological and Ecosystem Modelling (WGIPEM), the Joint PICES/ICES Workshop on Global Assessment of the Implications of Climate Change on the Spatial Distribution of Fish and Fisheries (WKSICCME), the Study Group on Integration of Economics, Stock Assessment and Fisheries Management (SGIMM), the Steering Group on Regional Sea Programmes (SSGRSP), and the Workshop on Benchmarking Integrated Ecosystem Assessment (WKBEMIA).

The possibility of creating a framework where secretariat representatives from marine organizations such as ICES and AMAP could meet more regularly to exchange information and work on concrete tasks was discussed. The demand for this kind of network will be further investigated through informal channels, and will start in a simple version with a small number of representatives and organizations.

15 Any Other Business

The delegation of Denmark reported that the representative of Greenland to AMAP has resigned her position, but a new representative had not yet been determined.

The delegation of Canada stated that feedback from the SAO Chair indicated that the agenda for the SAO meeting in Whitehorse in October was too long; accordingly, the AMAP WG should prioritize the items that it wishes to have discussed at that meeting.

The AMAP WG agreed that it would like to include the following agenda items on the SAO agenda, in order of prioritization:

- The AACA including SWIPA follow-up;
- Work of the two AMAP Expert Groups on SLCFs;
- An update on assessment work, including POPs, radioactivity, human health and AOA;
- Possibly also SAON (to be decided later).

The Canadian delegation also reported on the tragic crash of the helicopter associated with the Canadian Coast Guard vessel 'Amundsen' that occurred recently in which the captain of the 'Amundsen', the pilot and a scientist from the University of Manitoba were killed.

The AMAP WG expressed its deep sympathy for this loss and asked the Secretariat to send further condolences to the appropriate contacts.

16 Next Meeting

The delegation of Finland offered to host the next meeting of AMAP HoDs and PPs in Rovaniemi in early February 2014.

The delegation of Canada offered to host the next AMAP WG meeting in mid-September in Canada, possibly in Inuvik at the mouth of the Mackenzie River Delta, although the exact venue has not yet been finally decided.

17 End of Meeting

On behalf of the meeting, the Chair expressed gratitude to the Faroese hosts for the fantastic venue and overwhelming hospitality, thanked the participants in the meeting for their contributions and engagement and closed the meeting at 12:00 hrs on Wednesday, 18 September. The list of actions agreed at the meeting is attached as Annex 4.

Annex 1

Agenda for the 27th AMAP WG Meeting,

Tórshavn, Faroe Islands, 16-18 September 2013

Monday 16 September

09.00-09.30 1. Opening of WG Meeting:

1. Welcome by invited guest
2. Adoption of agenda
3. Actions from last meeting
4. Practical information

Annotation: Adoption of agenda.

09.30-10.30 2. Kiruna Ministerial Meeting

1. Kiruna Declaration and SAO report
2. The Canadian AC Chairmanship
3. The AMAP work plan

Annotation: Review the plans for AMAP for the coming period, including interactions with other AC Working Groups.

10.30-10.50 Coffee Break

10.50-12.00 3. Observers' Activities

Annotation: Observers are invited to give a presentation on their activities of relevance to AMAP work. Please note that each presentation should not exceed 5 min.

12.00-13.00 Lunch Break

13.00-14.30 4. Adaption Actions for a Changing Arctic (AACA)

1. Implementation plan (Including Motivation, Rationale, Goal, and Timeframe)
2. Terms of reference for a) Integration team b) Regional Implementation teams
3. Report global key drivers
4. Status of AACA-A and AACA-B

Annotation: Review plans for AACA.

15.00-15.15 Coffee Break

15.15-17.00 Item 4 Cont.

17.00-18.30 5. Future Assessments

1. Persistent Organic Pollutants (POPs)
2. Radioactivity
3. Human Health
4. Other: OGA and mercury follow-up
5. Review list of experts and update if relevant

Annotation: Plans for the two first assessments should be reviewed – the assessments have already been approved. For the third assessments new plans will be presented for approval.

19.00 Reception Hosted by The Foreign Service, The Prime Minister's Office

Tuesday 17 September

09.00-10.00 6. Short Lived Climate Forcers (SLCF)

1. Review outcome and plans from the BC/O3 workshop in Potsdam in June
2. Review progress report from CH4 group
3. Review mandate of AC Task Force and agree on next step

10-10.20 Coffee Break

10.20-11.20 7. Snow, Water, Ice and Permafrost in the Arctic (SWIPA) – follow up

Annotation: Review overview of proposals for follow ups.

11.20-12.00 8. Findings and Implications of Products Delivered to the Kiruna Meeting

1. Arctic Ocean Acidification (AOA)
2. Ecosystem Based Management (EBM)

12.00-13.00 Lunch Break

13.00-14.20 Item 8 Cont.

3. Arctic Biodiversity Assessment (ABA)
4. Arctic Ocean Review (AOR)
5. AMSA IIC and AMSA IID
6. Arctic Resilience Report (ARR)

Annotation: The WG is invited to review the recommendations of the products and consider consequences for AMAP and AACA, including proposals for follow-up.

14.20-15.10 9. Unmanned Aircraft Systems (UAS)

Annotation: The WG is invited to review and approve the plans of the Expert Group and give guidance as needed.

15.10-15.40 10. AC Task Force on Scientific Research Coordination

Annotation: The WG is invited to review the mandate of the AC Task Force and provide input on possible AMAP WG cooperation with the TF.

15.40-16.00 Coffee Break

16.00-17.00 11. AMAP Communication

1. AMAP web page. The updated AMAP web site is presented. A discussion on the relationship between the AC and the WG web page
2. Kiruna and AOA communication

Annotation: The WG is invited to give comments on the AMAP web-page and guidance on its further development. The WG is invited to give guidance on AMAP WG/AC communications efforts and relationship between these. The WG is invited to propose

possible improvements in communications between the Board/Secretariat and WG members.

19.30 Dinner hosted by Ministry of the Interior and Environment Agency

Wednesday 18 September

09.00-10.00 12. Arctic Report Card

Annotation: Reporting on the Arctic Report Card 2013. A discussion on how to increase AMAP involvement, including formulating wishes for next years' report - Suggestions: AOA, SLCF, Arctic Feedbacks, How to include local and traditional knowledge in climate science, Changing contaminant pathways as a result of climate change.

10.00-10.20 Coffee Break

10.20-11.20 13. AMAP Monitoring Guidelines

1. Updated guidelines will be presented

Annotation: The WG is invited to discuss the next steps regarding the guidelines, especially on the relationship with past AMAP recommendations.

11.20-12.20 14. Status of Other Business

1. AC request to estimate WG effort
2. National Implementation Plans. The need for and use of the plans
3. Update on the reporting of data to the Thematic Data Centers
4. SAON
5. CAFF/CBMP
6. ICARP III
7. Arctic Frontiers
8. PAME: Arctic Marine Strategic Plan (AMSP)
9. LRTAP
10. ICES-OSPAR Study Group on Ocean Acidification (SGOA)

12.20-12.50 15. Any Other Business

12.50-12.55 16. Next Meeting

Time and venue for the next WG meeting

12.55-13.00 17. End of Meeting

Annex 2

AMAP 27th Working Group Meeting, Tórshavn, Faroe Islands, 15/16 – 18 September 2013

List of Participants:

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Annex 3

	AMAP POPs Expert Group				AMAP Radioactivity Expert Group	AMAP Human Health Expert Group	
Proposed deliverables	POPs in air and biota trends - input to Stockholm Convention GMP2 review	Updated POPs assessment - temporal trends update	Updated POPs assessment - emerging POPs	Updated POPs assessment - Climate influence on POPs	Updated assessment of Radioactivity in the Arctic	POPs in human media trends - input to Stockholm Convention GMP2 review	Updated assessment of human health in the Arctic
Timing	2013	2015	2015	2016	2015	2013	2015/2016
Tasks listed in AMAP work-plan / SAO report / Can. Chairmanship priorities (see notes below)	18	8	8, 18	8	8	18	6, 8, 9, 23
Planned meetings	Trend workshop September 2013	EG early 2014	EG early 2014	EG early 2014	EG late 2013/early 2014		EG June 2013
Interactions with other AC WGs							SDWG?
Interactions with other (external) groups	SC WEOG			Use of ArcRisk/C&C project results	Use of C&C project results	SC WEOG	Use of ArcRisk/C&C project results

Engagement of PPs (desirable in all AMAP assessment work)							
Need for actions on part of WG/HoDs (e.g. nominations, etc.)	Support planned work	Support planned work	Confirm national experts, Support planned work	Confirm national experts, Support planned work	Confirm national experts, Support planned work	Review/endorse plans September 2013	Review/endorse plans September 2013
Actions on part of EG (drafting of reports, etc.) to prepare deliverables							Finalize assessment plan - June 2013

	AACAC				
Proposed deliverables	Integrated report on adaptation for a changing Arctic	Barents region - regional report	Baffin Island/Davis Strait/West Greenland region - regional report	Bering/Chukchi/Beaufort region - regional report	
Timing	2017	2015	2015?	2015?	
Tasks listed in AMAP work-plan / SAO report / Can. Chairmanship priorities (see notes below)	4, 12, 22, 23, 30	4, 12, 22, 23, 30	4, 12, 22, 23, 30	4, 12, 22, 23, 30	
Planned meetings	IGT spring 2014	RIT workshop October 2013			
Interactions with other AC WGs	CAFF/PAME/SDWG	CAFF/PAME/SDWG	CAFF/PAME/SDWG	CAFF/PAME/SDWG	
Interactions with other (external) groups	IASC/ICES/WMO/IMO /OGP, etc.	IASC/ICES/WMO/IMO/ OGP, etc.	IASC/ICES/WMO/IMO/ OGP, etc.	IASC/ICES/WMO/IMO/ OGP, etc.	
Engagement of PPs (desirable in all AMAP assessment work)	All	SC/RAIPON	ICC	ICC/GCI/AAC/AIA/RAIPON	
Need for actions on part of WG/HoDs (e.g. nominations, etc.)		Regional arrangements, nominations	Regional arrangements, nominations	Regional arrangements, nominations	
Actions on part of EG (drafting of reports, etc.) to prepare deliverables					

	AMAP SLCF-Black carbon/O3 Expert Group	AMAP SLCF-Methane Expert Group	SWIPA update (AMAP Climate Expert Group)	Mercury update (AMAP Mercury Expert Group)	OGA update (AMAP O&G Expert Group)	AOA update (AMAP AOA Expert Group)
Proposed deliverables	Updated assessment of science, inventories, climate impacts	Updated assessment of science, inventories, climate impacts	Development of freshwater hydrology follow-up underway - Other components?	No planned implementation at this point (O&G releases/flaring)	No planned implementation at this point (flaring? TNORM? Mercury?)	Assessment update
Timing	2015	2015	2015-2017?			2016
Tasks listed in AMAP work-plan / SAO report / Can. Chairmanship priorities (see notes below)	5, 29	5, 29	8, 19	17	8	8
Planned meetings	EG meeting Stockholm January 2014 / Paris June 2014	EG meeting Reykjavik October 2013				
Interactions with other AC WGs	TFABC&M, ACAP	TFABC&M				
Interactions with other (external) groups	LRTAP	LRTAP	IPA, GEF, WMO, IASC	UNEP (DIPCON October 2013)		
Engagement of PPs (desirable in all AMAP assessment work)						

Need for actions on part of WG/HoDs (e.g. nominations, etc.)	Review plans/progress in September (WG27); identify additional experts on tropospheric O ₃	Review plans/progress in September (WG27)	Nomination of freshwater experts			
Actions on part of EG (drafting of reports, etc.) to prepare deliverables	Prepare plans and progress report for WG27 meeting	Prepare plans and progress report for WG27 meeting				

	Arctic Report Card (AMAP Climate Expert Group)	UAS (AMAP UAS Expert Group)	C&O	AMAP Monitoring Programme (ATEP)	ECONOR	SAON
Proposed deliverables	Review of 2013 ARC. Contribution from AMAP on cryosphere change/AOA?	Handbook on scientific use of UAS / Treaty or similar among Arctic states to improve access	AMAP website - Communication Strategy - Communication Strategy Summary	Monitoring guidelines update		SAON Strategic plan
Timing	Fall 2013	2013 / 2015	2013	2013		
Tasks listed in AMAP work-plan / SAO report / Can. Chairmanship priorities (see notes below)	21	7	21	1,3		15
Planned meetings		EG meeting May 2013				ASSW 2014
Interactions with other AC WGs			AC Secretariat			CAFF
Interactions with other (external) groups	NOAA		CICERO	CBMP	ECONOR group	IASC/AOS/WMO/ GEO, etc.
Engagement of PPs (desirable in all AMAP assessment work)						Seat in Executive Committee and Board
Need for actions on part of WG/HoDs (e.g. nominations, etc.)	Propose authors/reviewers for 2013 ARC. Consider contributions for 2014 ARC	Endorse plans at WG27				

Actions on part of EG (drafting of reports, etc.) to prepare deliverables						

	EBM	CBMP	AMSA	AOR/AMSP
Proposed deliverables		Cooperation with CAFF on development of CBMP		
Timing				
Tasks listed in AMAP work-plan / SAO report / Can. Chairmanship priorities (see notes below)	13	14		10, 11
Planned meetings	PAME EBM workshop June 2013			
Interactions with other AC WGs	PAME	CAFF	PAME	PAME
Interactions with other (external) groups				
Engagement of PPs (desirable in all AMAP assessment work)		TK		
Need for actions on part of WG/HoDs (e.g. nominations, etc.)	Review CBMP components			
Actions on part of EG (drafting of reports, etc.) to prepare deliverables				

Mandated tasks:

1. *Trends and Effects Monitoring Program*: AMAP will carry out its monitoring and assessment implementation plan in accordance with the approved AMAP Strategic Framework for 2010+.
2. *Arctic monitoring and research activities*: As part of its on-going work, AMAP will continue to coordinate, based largely on national programs, to provide the information necessary for assessment of relevant issues such as ...
3. AMAP will continue to coordinate and deal with new activities to ensure appropriate data reporting and archiving, including reporting of data to AMAP Thematic Data Centres. AMAP will cooperate with international partners and arrange workshops to improve monitoring capability, including the use of remote sensing.
4. *Adaptation Actions for a Changing Arctic – part C*: Work will continue on Arctic-focused climate and integrated environmental frameworks/models that can improve predictions of climate change and other relevant drivers of Arctic change in order to improve predictions and inform the development and implementation of adaptation actions by Arctic States and Permanent Participants.
5. *SLCF Expert Group*: AMAP will update its assessment to include scientific data and information on black carbon, methane and tropospheric ozone from sources inside and outside the Arctic.
6. *Human Dimension and Priority on Arctic Health and Human Well-being*: The human health assessment group will continue to work with SDWG's human health expert group on issues of joint concern and plans to produce an update to the 2009 AMAP Human Health Report in time for release at the Ministerial meeting in 2015.
7. *Unmanned Aircraft Systems (UAS) Expert Group*: AMAP will continue its work on safety guidelines and demonstrate the use of UAS in cross-jurisdictional environmental monitoring.
8. As part of its ongoing work, AMAP will determine the need for follow-up activities and products in relation to its previous work and develop plans for such activities as needed. Follow-up activities and products may be undertaken for the Oil and Gas Assessment (OGA), SWIPA, AOA, and mercury assessments. Other AMAP-relevant issues, such as POPs, radioactivity, human health, contaminant transport and fate, will be updated. AMAP will continue to evaluate emerging issues of concern related to pollution and climate change and their effects on Arctic ecosystems and human populations.
9. *Food and Water Security project*: The AMAP Human Health Assessment Group and the SDWG Arctic Human Health Expert Group are jointly developing this project for review and consideration by Senior Arctic Officials.
10. *Arctic Marine Strategic Plan*: AMAP will contribute to an update of the 2004 plan with PAME
11. *Arctic Ocean Review*: AMAP will contribute to any potential follow-up related to pollution and climate change issues with PAME
12. *AACA part c*: AMAP is leading the work on this part, which will be developed in collaboration with other relevant Arctic Council working groups and international science organisations
13. *Ecosystem-Based Management Initiative*: AMAP will continue to implement this initiative, as appropriate with other relevant Arctic Council working groups.
14. *Circumpolar Biodiversity Monitoring Plan*: AMAP will continue to cooperate with CAFF in the further development of this plan to ensure consistency with the AMAP monitoring guidelines and plans, and on follow-up on the Arctic Biodiversity Assessment.

15. *SAON*: AMAP will contribute to the implementation of the SAON and continue to co-lead its development on behalf of the Arctic Council, together with the IASC.
16. *AMAP's science results and information*: As part of its continuing work AMAP will participate in relevant international meetings and symposia to communicate its ongoing activities as needed
17. *United Nations Environment Programme (UNEP) Chemicals*: AMAP will continue to cooperate with UNEP on its activities related to UNEP's global mercury agreement, the Minamata Convention.
18. *Stockholm Convention Conference of Parties 7 (COP 7)*: AMAP will present data products and intends to collaborate with the Stockholm Convention Secretariat in preparation for the Stockholm Convention's Second Global Monitoring Plan report due in 2015.
19. *UNFCCC IPCC and the SWIPA assessment results*: The results of the SWIPA 2011 assessment will continue to be delivered to the IPCC for use in its Fifth Assessment Report on Climate Change to be prepared in 2013/2014
20. *Combined Effects of Contaminants and Climate Change*: The AMAP Secretariat will continue its leading role in this project, in cooperation with AMAP experts, and funded by the Nordic Council of Ministers and the Nordic countries.
21. AMAP will further develop and implement its Communications and Outreach Plan ... will implement follow-up communication and outreach activities ... associated with its assessments and activities: AOA, SWIPA, OGA, mercury, radioactivity, SLCFs, POPs, human health and SAON, ... will continue to contribute relevant programme-related scientific input to the Arctic Report Card ...
22. [Canadian Chairmanship]: *"...with a focus on responsible Arctic resource development, safe Arctic shipping and sustainable circumpolar communities." and further "Across the circumpolar region, communities are adapting to these changes. The Arctic Council will facilitate the sharing of communities' knowledge and best practices"*
23. [Kiruna Declaration]: Recognize that adaptation to the impacts of climate change is a challenge for the Arctic, and the need for strengthened collaboration with Arctic indigenous peoples and other residents, governments and industry, welcome the reports, key findings and on-going work on the Adaptation Actions for a Changing Arctic initiative, and decide to continue the work on enhancing the capacity of decision-makers to manage climate risks including through an on-line information portal and through improved predictions of combined effects,...
24. [Canadian Chairmanship]: Responsible Arctic Resource Development - emphasizing the sustainable development of natural resources, central to the future of the circumpolar region.
25. [Canadian Chairmanship]: Arctic marine oil pollution prevention
26. [Canadian Chairmanship]: Safe Arctic shipping / Sustainable tourism and cruise ship operations
27. [Canadian Chairmanship]: Sustainable circumpolar communities / Protecting traditional ways of life / Promoting traditional and local knowledge
28. [Canadian Chairmanship]: Arctic marine oil pollution prevention
29. [Canadian Chairmanship]: Addressing short-lived climate pollutants
30. [Canadian Chairmanship]: Facilitating adaptation to climate change
31. [Canadian Chairmanship]: Promoting Mental Wellness in Northern Circumpolar Communities

Annex 4

27th Working Group Meeting, 16-18 September 2013

Action list

Agenda item	Subject	Action	For	By
2.3	Work plan	Update AMAP Work Plan Implementation Actions table based on outcome of WG27 meeting and attach it to the minutes	AMAP Secretariat	30 September 2013
4	AACA-C	Seek clarification from PAME on the scope of the Sustainable Arctic Tourism Initiative including the extent to which terrestrial areas will be covered	AMAP Chair	7 October 2013
4	AACA-C	Develop plans for a workshop for the modelling community covering cryosphere science when the needs of AACA-C are known in feedback from Quebec workshop	AMAP Board and Secretariat	31 October 2013
4	AACA-C	Send comments on the AACA-C implementation plan and associated documents to the AMAP Secretariat	All AMAP countries and observers	25 September 2013
4	AACA-C	Send comments on template and strategic framework developed during the meeting by the break-out group	All AMAP countries and observers	25 September 2013
4	AACA-C	Update deliverables on planned AACA-C work to reflect decisions taken at this meeting	AMAP Secretariat	27 September 2013
5.2	Radioactivity assessment	All countries with data on radioactive substances in Arctic media to submit them to Radioactivity TDC	All AMAP countries and observers	31 March 2014
5.4	AOA	Submit additional nominations of experts for the Arctic Ocean Acidification Expert Group	All AMAP countries and observers	20 December 2013
5.4	AOA	Arrange for an AOA follow-up workshop to review the issues, data availability, and global implications and teleconnections	AMAP Board and Secretariat	31 March 2014
5.5	Expert groups	Prepare a 1- to 2-page paper on the role of AMAP expert groups and their members and invite the nomination of participants from observers. The draft should be circulated to HoDs for comment	AMAP Board and Secretariat	31 October 2013

Agenda item	Subject	Action	For	By
5.5	Expert groups	Submit nominations for new (younger) members for the expert groups on POPs, Radioactivity, Human Health, and AOA and inform about experts who will no longer be on the expert groups on Mercury and OGA	All AMAP countries and observers	20 December 2013
6	SLCFs	Find a science writer to prepare a first draft synthesis report combining the black carbon/tropospheric ozone report and the methane report into a synthesis report for the general public	AMAP Board and Secretariat	1 December 2014
6	SLCFs	Prepare a communication strategy for outreach products on SLCFs, including the Arctic Council TF on SLCFs, for discussion at the next HoDs meeting	AMAP Secretariat	30 December 2013
8.1	AOA	Send e-mail to HoDs requesting the number of copies of the AOA scientific report they wish to receive	AMAP Secretariat	31 October 2013
8.1	AOA	Send comments on the current version of the AOA layman's report and the number of copies requested of the full AOA scientific report to the AMAP Secretariat	AMAP HoDs	7 October 2013
8.3	ABA	Fill in CAFF matrix on implementation actions for ABA recommendations with information on current AMAP work and send the table to CAFF	AMAP Secretariat	23 September 2013
9	TF on Scientific Research	Ask national SAO for clarification on national representation on AC TF on Scientific Research Coordination for discussion at next HoDs meeting	AMAP HoDs	24 October 2013
13	Monitoring guidelines	Request Expert Groups on POPs, Radioactivity, Climate, Human Health, Mercury, SLCFs and Oil and Gas to review current version of the AMAP Trends and Effects Programme implementation plan and monitoring guidelines and identify requirements for revisions and additions	AMAP Secretariat	30 November 2013
13	Monitoring guidelines	Prepare a paper concerning the type of workshop that would be needed to most effectively develop revised guidelines for AMAP monitoring efforts and coordination with other guideline development including the CBMP, for consideration at HoDs meeting in February 2014	AMAP Board and Secretariat	20 December 2013

AMAP 27th Working Group Meeting



